Factor of Success – Digital Production

Dr. Henning Löser, Head of Audi Production Lab

Digital Production

What happened previously
The changing face of production

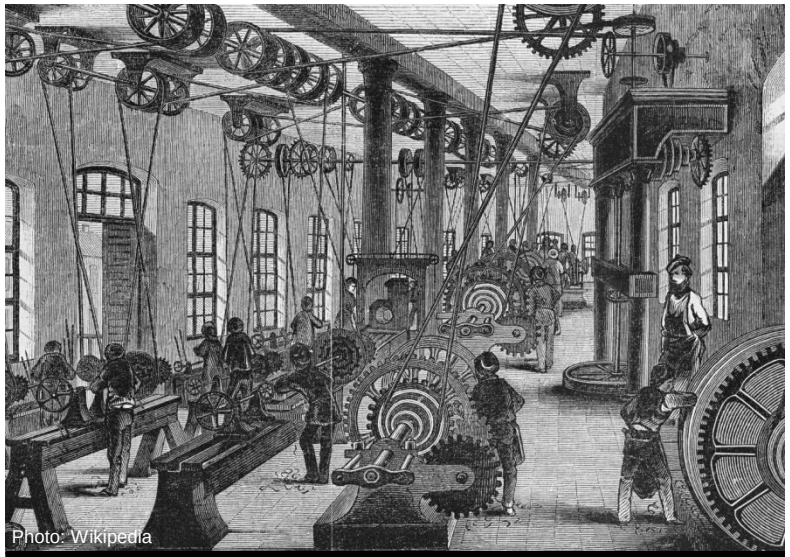


Photo: Wikipedia

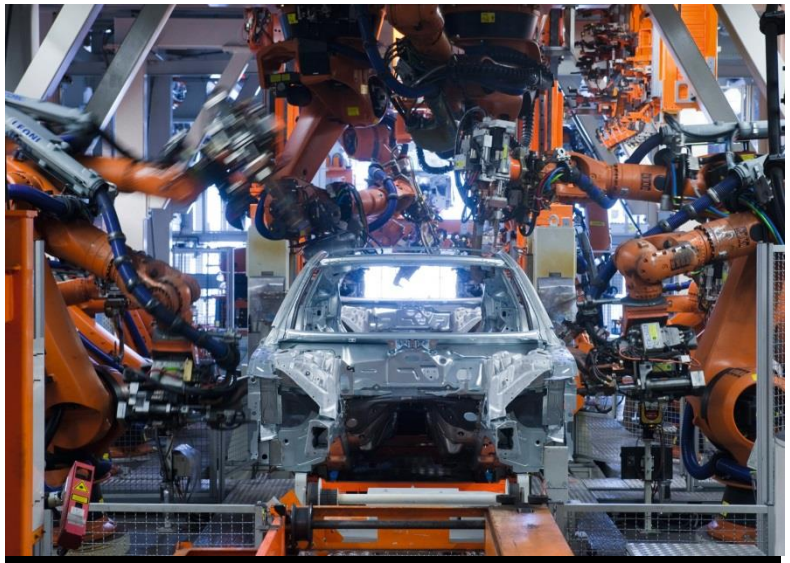
1.0 Loom

1784
The industrial revolution is kicked off with the invention of the mechanical loom. Machinery is now driven by water and steam power.


Photo: Wikipedia

2.0 Conveyor belt

1870
Half pigs are transported on belts in slaughterhouses – this is the birth of the conveyor belt. Working processes are broken down into individual steps, electricity replaces steam and water power.



3.0 Elektronics/IT

1969
The “programmable logic controller” launches the digital revolution. Electronics and IT enter the world of mechanical engineering. The computer changes the world of work.

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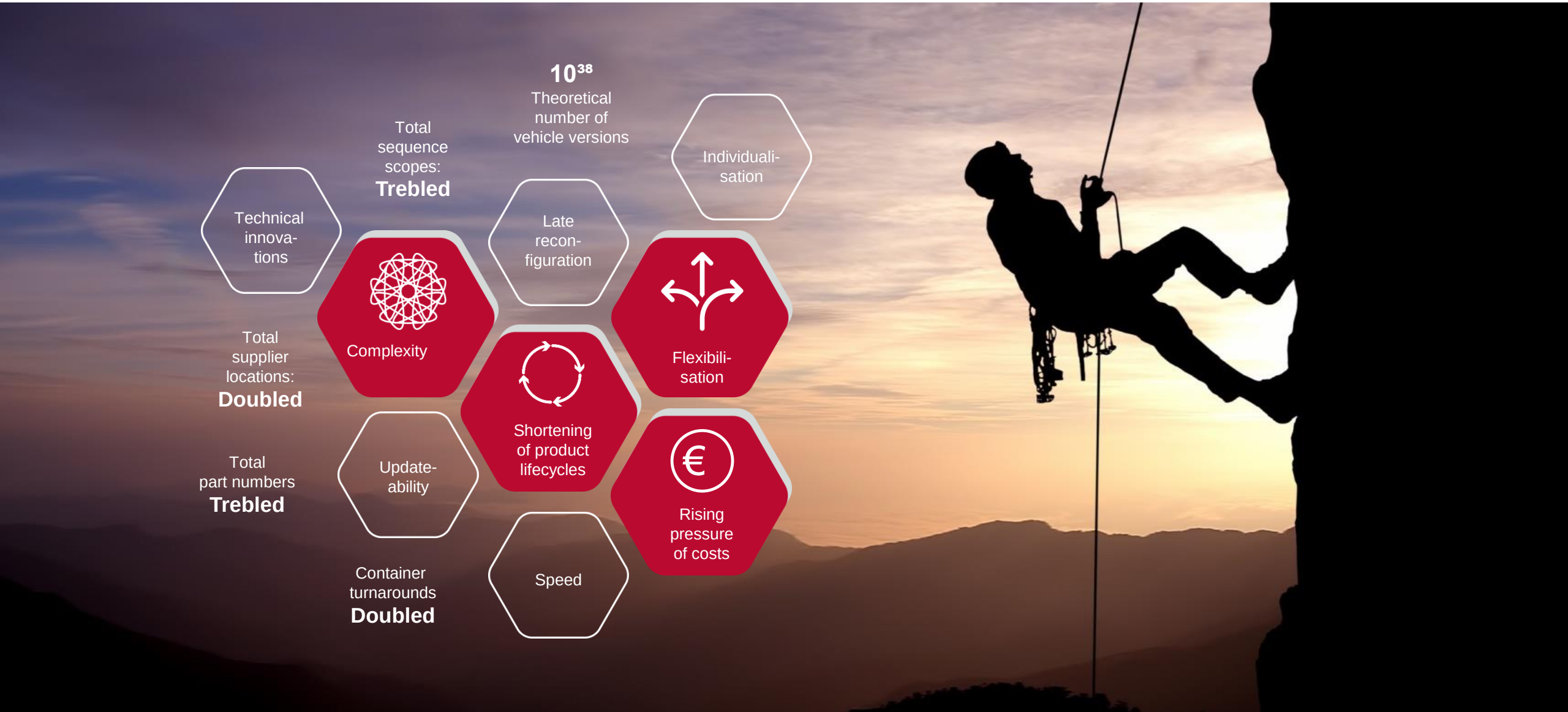
Where do we stand today?

The challenges facing production are growing rapidly



The fourth industrial revolution
The Internet of Things

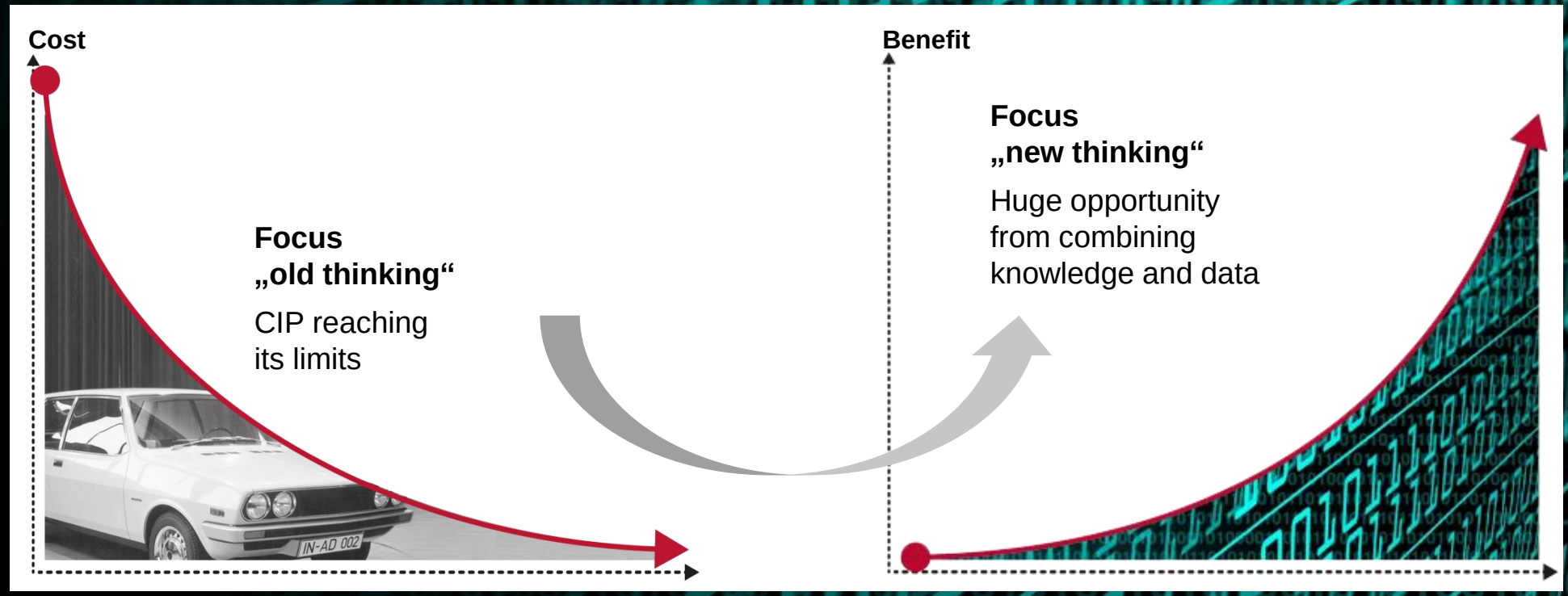
Digital Production

4.0
Internet of Things

Digital Production

The fourth industrial revolution

The Internet of Things



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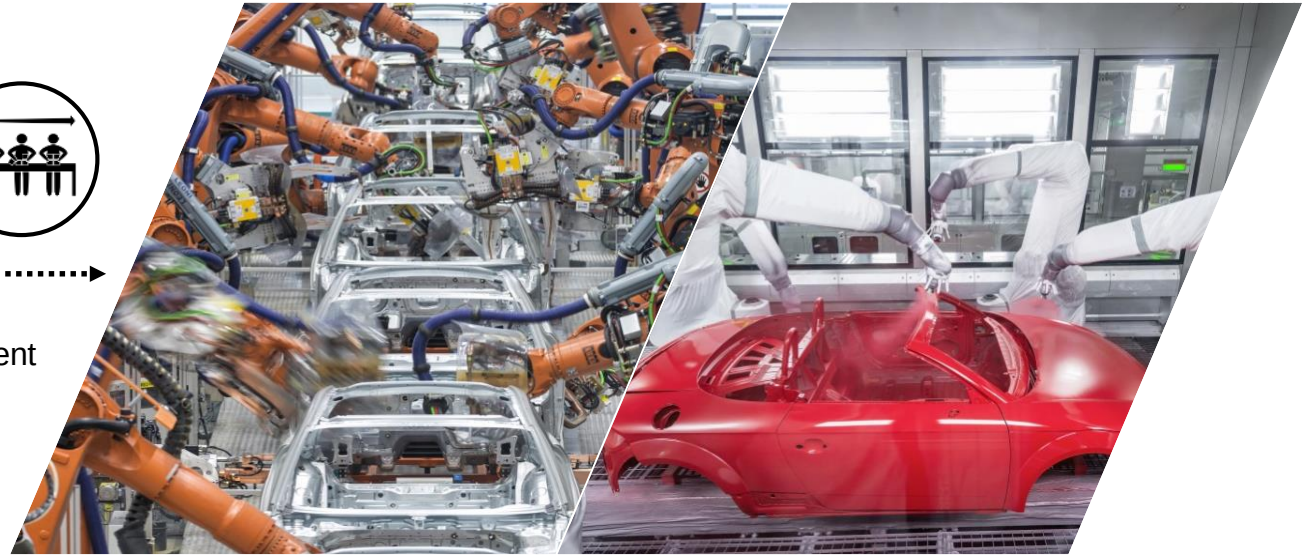
Artificial intelligence will change indirect activities as drastically as robots change direct activities

Development in **recent decades**



Development in the **next years**

Smart Factory

The future of intelligent production at Audi

Digital production

one of the strategic fields of activity

for the **Smart Factory**

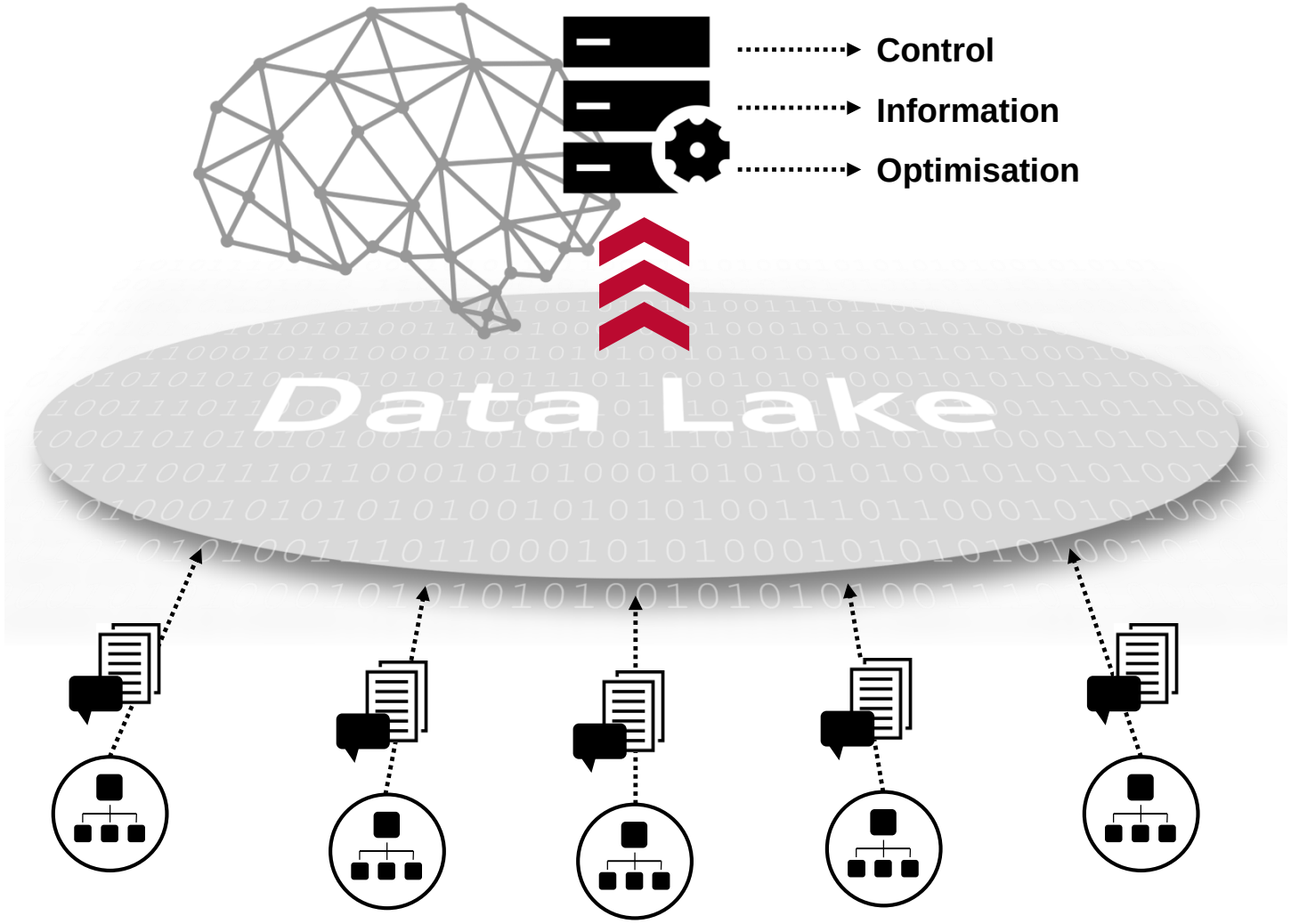
Where do we want to go?
The mission

Digital Production

Digital Production

Data Lake

In Data Lake we consolidate the distributed knowledge of the company



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How might it look?

Our visions

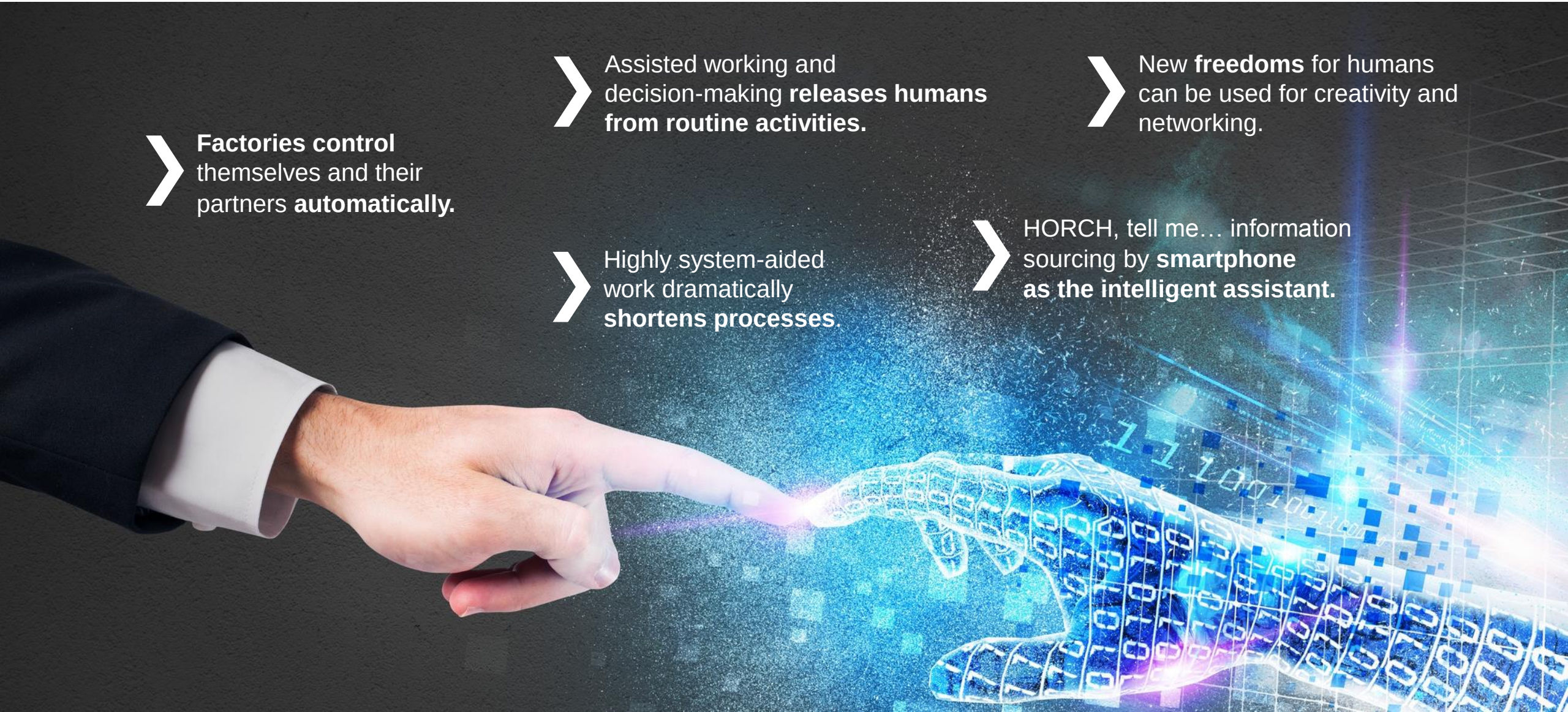
Factories control themselves and their partners **automatically.**

Assisted working and decision-making **releases humans from routine activities.**

New **freedoms** for humans can be used for creativity and networking.

Highly system-aided work dramatically **shortens processes**.

HORCH, tell me… information sourcing by **smartphone as the intelligent assistant.**



Key effects of digitalisation

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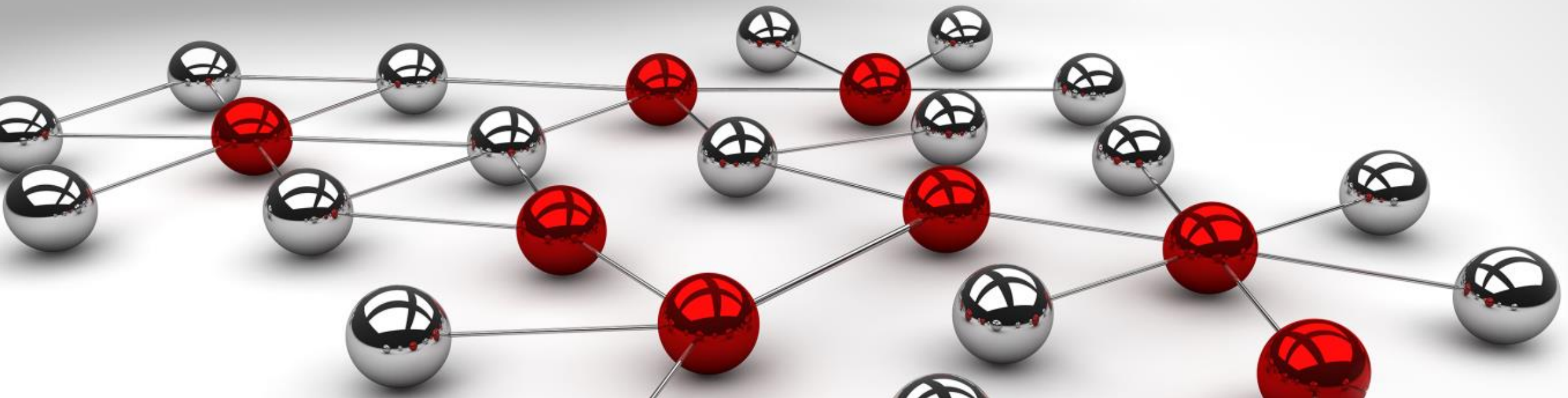
Indirect activities
can be **automated**.

Processes can be
hugely shortened:
weeks become seconds.

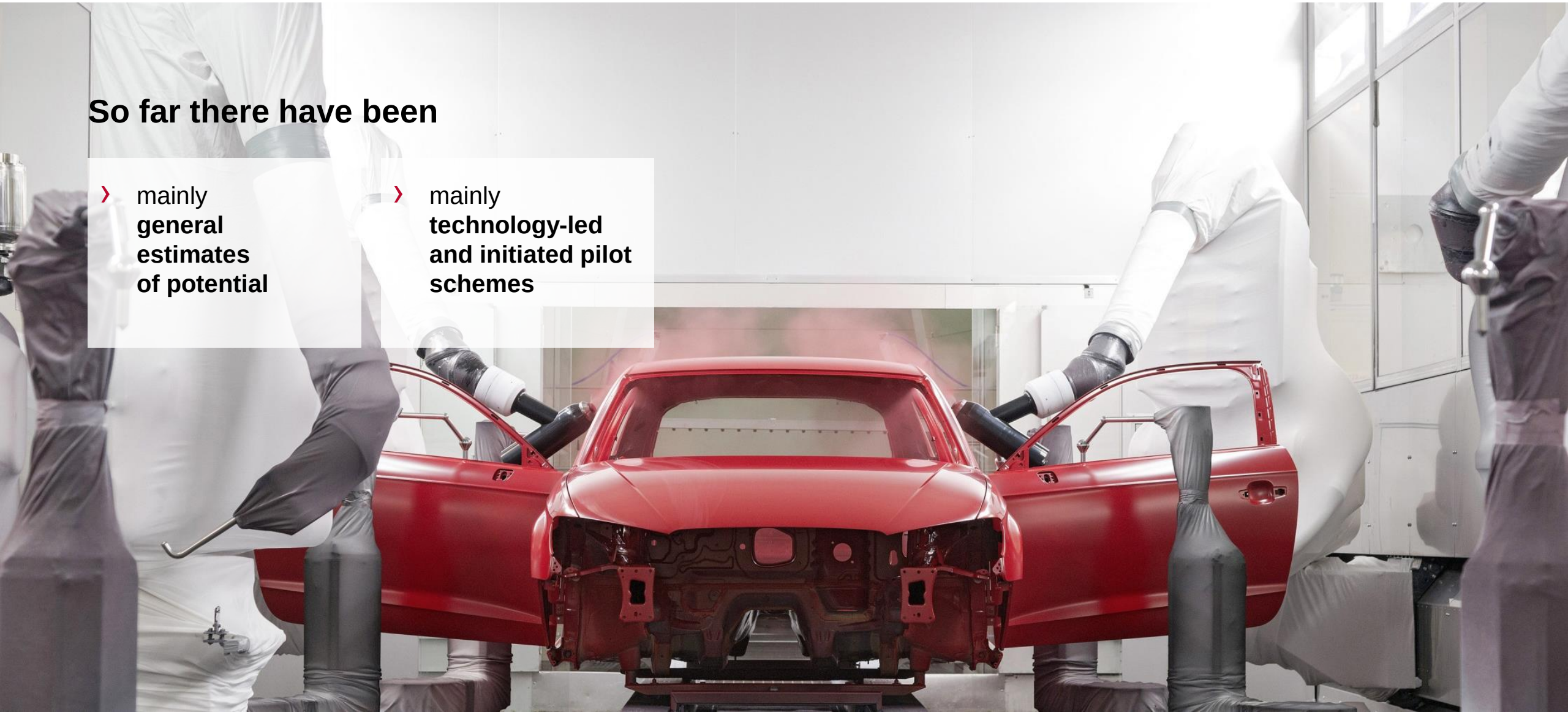
Complexity can be handled better
by computer than by humans.
The result is **better decisions.**



Requirements

Making digitalisation perceptible

Digital Production



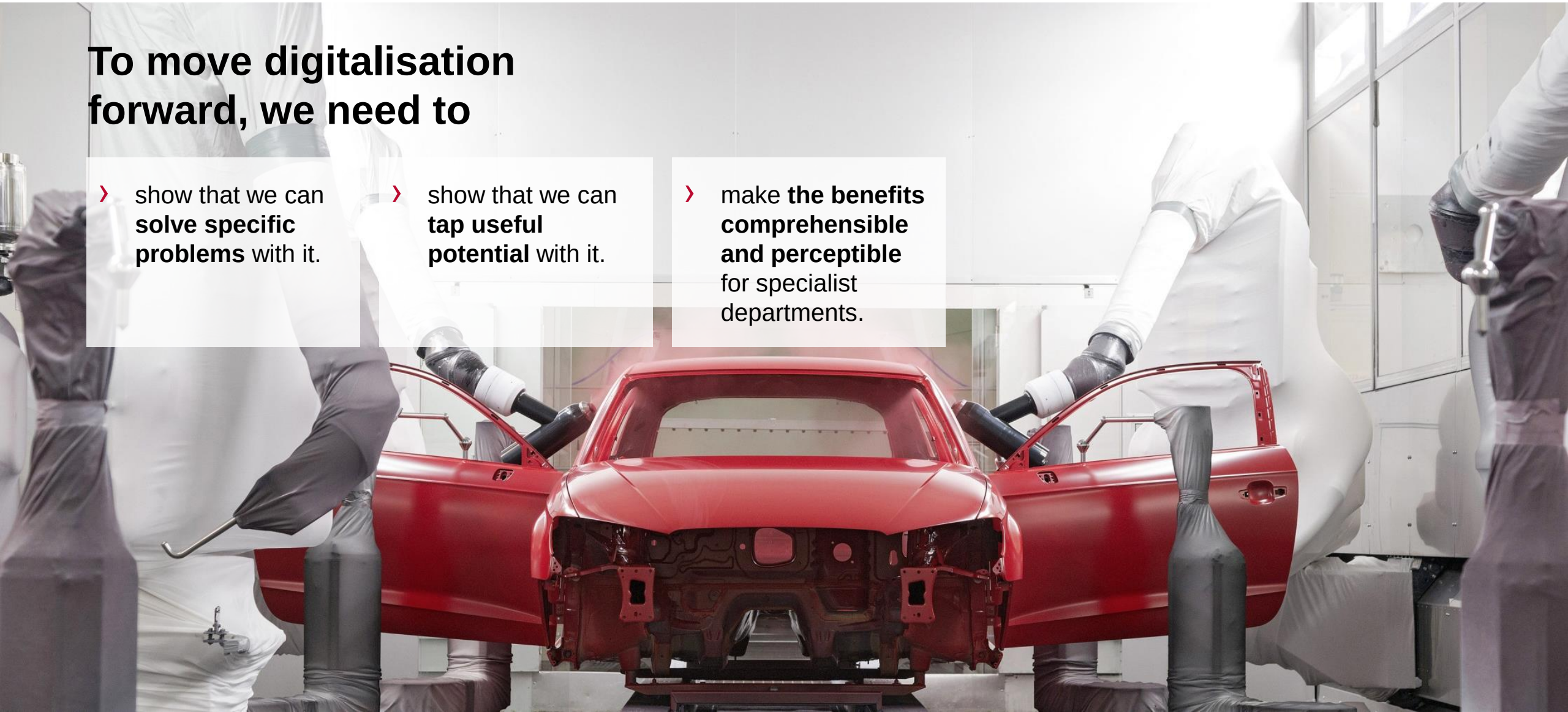
So far there have been

- mainly **general estimates of potential**
- mainly **technology-led and initiated pilot schemes**

Requirements

Making digitalisation perceptible

Digital Production



To move digitalisation forward, we need to

- show that we can **solve specific problems** with it.
- show that we can **tap useful potential** with it.
- make **the benefits comprehensible and perceptible** for specialist departments.

Requirements

Making digitalisation perceptible

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To move digitalisation forward, we need to

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The spotlight on people

Opinions are divided among employees

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The spotlight on people

Digitalisation will only work with our employees on side

Preparing employees for

New competences

New forms of cooperation

Taking their fears away and exciting them!

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The perspective: digital production as a decisive competitive factor at Audi

Thank you!